

**REMARKS**

The present communication is responsive to the Official Action mailed on September 26, 2003.

Applicant notes with appreciation the Examiner's careful consideration of applicant's arguments filed on July 3, 2003 and the Examiner's withdrawal of the previous rejections in view of same. Claims 7-24 are pending in the application, claims 1-6 and 26-32 being withdrawn from consideration pursuant to 27 C.F.R. §1.142(b), applicant, however, reserving the right to file divisional applications to the non-elected claims (as indicated in Paper No. 6). Of the pending claims, claim 7 is independent. Claims 8 through 24 either directly or indirectly depend from claim 7.

In the Official Action, the Examiner objected to the abstract of the disclosure because of the use of phrases already implied, i.e., "are disclosed." In addition, the Examiner objected to the abstract on the grounds that it was not directed to the claimed invention. In view of the Examiner's objection, applicant amended the abstract to now state: "A method for producing a shim piece for a magnetic resonance imaging (MRI) magnet. The shim piece is used to form a shim of a magnet and is designed to suppress eddy currents in the shim created by the introduction of a gradient magnetic field. The shim piece is formed by a plurality of ferromagnetic rods placed side-by-side and surrounded by a dielectric material." Applicant respectfully submits that the amendments to the abstract do not constitute the addition of new matter and properly addresses the Examiner's concerns in this regard.

The Examiner also objected to the title as being not descriptive. Applicants have amended the title to now state: "A METHOD FOR MAKING PIECES FOR A MAGNETIC RESONANCE IMAGING MAGNET." Applicant notes that the title has been amended as

suggested by the Examiner. Accordingly, applicant respectfully submits that the current title is not descriptive.

The Examiner rejected claims 17 and 18 under 35 U.S.C. § 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the claimed invention.

In particular, the Examiner stated that claim 17 was vague and ambiguous as it wasn't clear whether the phrase "any oily residue and other contaminants" is referring to "the oily residue and contaminants in alternative form or both altogether." Applicant has amended claim 17 to recite "any oily residue or other contaminants." Applicant respectfully submits that this amendment to claim 17 does not constitute the addition of new matter as support for this amendment may be found, for example, at page 7, lns. 2-8 of the written description.

The Examiner rejected claim 18 as being vague and ambiguous as it wasn't clear whether the phrase "oxides, dirt and any other contaminants" was used in the alternative or compound form. Applicant has amended claim 18 to recite "oxides, dirt or any other contaminants." Applicant respectfully submits that this amendment to claim 18 does not constitute the addition of new matter as support for this amendment may be found, for example, at page 7, lns. 2-8 of the written description.

The Examiner rejected claims 7-12, 14 and 19 under 35 U.S.C. §1029b) as being anticipated by U. S. Patent No. 3,813,767 to *Sasaki et al.*, (hereinafter "*Sasaki*"). Claims 13, 15-18 and 20-24 were rejected by the Examiner under 35 U.S.C. § 103(a) as being unpatentable over *Sasaki* in view of U.S. Patent No. 3,849,878, to *Rudd et al.* (hereinafter "*Rudd*").

With regard to claim 7, the Examiner asserts that *Sasaki* discloses a method of making pieces comprising "providing an intermediate element (in Fig. 1a) including a plurality of

ferromagnetic rods 11 with a dielectric material (molding material 12) therebetween." *Sasaki* discloses "a new and improved method of manufacture of annular magnetic cores." (*Sasaki*, col. 1, lns. 47-48.) [Emphasis Added.]

*Sasaki's* invention was motivated by the defects and disadvantages presented by ferrite cores that "are utilized as memory elements in electronic computers." (*Id.*, lns. 24-26.) *Sasaki* discloses two methods for manufacturing annular magnetic cores. In the first method, "a plurality of core wires 11 is covered by a layer of magnetic material and said cores are positioned in a desired arrangement relative to each other." (*Id.*, col. 3, lns. 20-23.) The "layer of magnetic material may be provided on the core wire 11 by electroplating, chemical plating, evaporation, sputtering, or any suitable mechanical or other process. The core wire 11 may be either electrically conductive or electrically nonconductive." (*Id.*, lns. 25-29.) [Emphasis Added.] The arrangement of core wires 11 is then embedded in a molding material 12 and the molding material hardens thereby fixing the wires in their arranged positions. (*Id.*, lns. 44-49.)

*Sasaki* also discloses a method for manufacturing an individual magnetic thin film core. In accordance with this method, a magnetic thin film is provided as a cover on a core wire 15 and a support layer 28 is provided on the magnetic thin film. (*Id.*, col. 7, lns. 3-8.) A bundle of the covered cores are then molded together and cut to provide a magnetic thin film. (*Id.*, lns. 10-21.)

Contrary to the Examiner's assertion, *Sasaki* does not disclose, "providing . . . a plurality of elongated ferromagnetic rods." The Examiner incorrectly concludes that the claimed "ferromagnetic rods" are identical to *Sasaki's* core wire 11. In fact, *Sasaki* discloses "The core wire 11 may be either electrically conductive or electrically nonconductive."

(*Id.*, lns. 25-29.) [Emphasis Added.] Electrically conductive or non-conductive wire is not identical to a ferromagnetic rod. For at least this reason, *Sasaki* does not anticipate claim 7 as anticipation requires that each and every element of the claimed invention be disclosed in the prior art reference. (M.P.E.P. § 2131, pg. 2100-69.)

In addition, *Sasaki* clearly states that a thin layer of magnetic material is applied to the core wires. Core wires covered by a layer of magnetic material are of course not identical to a plurality of elongated ferromagnetic rods.

Furthermore, the process described by *Sasaki* does not appear to be usable if the wire core was replaced by a ferrite core. As stated by *Sasaki*, "recent miniaturization of ferrite cores in an effort to increase the speed and to operate such cores with less electrical energy has created difficulties in manufacture and winding." (*Sasaki*, col. 1, lns. 29-33.) In addition, *Sasaki* discloses that the "size of the magnetic thin film core produced by the method of the present invention is considerably smaller than the size of a conventional ferrite core." (*Id.*, col. 6, lns. 54-56.) Indeed, it follows that the process disclosed by *Sasaki*, which produces a "considerably smaller . . . ferrite core," would not be usable if the wire core was replaced by a ferrite core given that "miniaturization of ferrite cores . . . has created difficulties in manufacture." (*Id.*) Thus, *Sasaki* is clear in teaching that the disclosed procedures would not work if a ferrite core replaced a wire core. Moreover, the very reason that *Sasaki* uses a wire core is to avoid using a ferrite core. Thus, *Sasaki* teaches opposite to the claimed invention and therefore does not anticipate claim 7.

With regard to claims 8-12, the Examiners points to additional disclosure in the *Sasaki* patent as anticipating the subject matter of each of these claims. However, these claims

depend from claim 7 and therefore, for at least the reasons discussed above, are also not anticipated by *Sasaki*.

With regard to claims 13, 15-18, and 24, the Examiner asserts that any additional inventive subject matter recited in these claims which are not disclosed by *Sasaki* are disclosed by *Rudd*. Therefore, the Examiner asserts that the combination of *Sasaki* and *Rudd* obviates claims 13, 15-18, and 20-24. *Rudd*, however, does not make up for the deficiencies in *Sasaki* and therefore the combination of *Rudd* and *Sasaki* cannot be used to obviate any of the claims under examination. Indeed, in the Official Action of February 4, 2003, which issued in the present application, the PTO admitted that "*Rudd* fails to teach ferromagnetic rods between the dielectric." (Official Action of February 4, 2003, pg. 2, item 3, ln. 9.) In this regard, *Sasaki* teaches no more than *Rudd*.

As it is believed that all of the rejections set forth in the Official Action have been fully met, favorable reconsideration and allowance of claims 7-24 are earnestly solicited. If, however, for any reason the Examiner does not believe that such action can be taken at this time, it is respectfully requested that he telephone applicant's attorney at (908) 654-5000 in order to overcome any additional objections which he might have.

If there are any additional charges in connection with this requested amendment, the Examiner is authorized to charge Deposit Account No. 12-1095 therefor.

Dated: December 23, 2003

Respectfully submitted,

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